**CLAIMS:**

1. A monitoring system for an outdoor power implement, the monitoring system comprising:

an accelerometer for collecting impact force data of the outdoor power implement;

a GPS receiver for collecting position data of the outdoor power implement;

a processing module coupled to the accelerometer and the GPS receiver and having a filter module being operable to receive the impact force data from the accelerometer, filter the impact data, and provide filtered impact data, and a data extraction module being operable to receive the positioning data from the GPS receiver; and

a storage device coupled to the processing module and being operable to record the filtered impact data and the positioning data.

2. The monitoring system of claim 1, wherein the outdoor power implement includes an electrical system having a power source, and the monitoring system includes a power take-off for connecting the monitoring system to the power source of the outdoor power implement and providing power to the monitoring system.

3. The lawnmower of claim 2, wherein the monitoring system includes electrical sensors for measuring current, voltage and ambient temperature of the electrical system and transmitting data to the microprocessor regarding operation of the electrical system, and the monitoring system automatically begins recording the filtered impact data and position data in the storage device in response to movement of the outdoor power implement sensed by the GPS receiver.

4. The monitoring system of claim 1, wherein the monitoring system is in the form of a self-contained modular unit, and the monitoring system further comprises a durable housing enclosing components of the monitoring system and protecting the components from environmental conditions, the housing being removably connectable to the outdoor power implement.

5. The monitoring system of claim 4, wherein the housing is resistant to magnetic and electrical fields, the housing also being air tight, water resistant and corrosion resistant.

6. The monitoring system of claim 1, further comprising a user interface including a visual display and input buttons for interfacing with the monitoring system.

7. The monitoring system of claim 6, wherein the user interface is operable to receive an operator identification and a job identification entered by an operator of the outdoor power implement, the storage device being operable to record the operator identification and the job identification.

8. The monitoring system of claim 1, wherein the monitoring system automatically begins recording the filtered impact data and position data in the storage device in response to movement of the outdoor power implement sensed by the GPS receiver.

9. The monitoring system of claim 1, wherein the monitoring system automatically begins recording the filtered impact data and position data in the storage device in response to the initiation of system movement sensed by the accelerometer.

10. The monitoring system of claim 1, further comprising a communication module coupled to the processing module and operable to transfer data from the monitoring system to an external device.

11. The monitoring system of claim 1, wherein the storage device comprises an electrically erasable programmable read-only memory.

12. The monitoring system of claim 1, wherein the filter module comprises a resistor capacitor filter circuit having a cutoff frequency at 50Hz.

13. The monitoring system of claim 1, wherein the filter module comprises a weighed averaging module configured to generate a weighed average using the impact force data.

14. The monitoring system of claim 1, further comprising a time keeping device coupled to the processing module for measuring an operational time period the outdoor power implement is in operation, the monitoring system including a database of a maintenance time period for regularly scheduled maintenance and providing a maintenance indicator in response to the operational time period equaling the maintenance time period, the storage device being operable to record the operational time period.

15. The monitoring system of claim 14, further comprising a user interface including a visual display and input buttons for interfacing with the monitoring system, the user interface displaying the maintenance indicator and being operable to clear the maintenance indicator, the storage device being operable to record the initiation of the maintenance indicator and the clearance of the maintenance indicator.

16. The monitoring system of claim 14, wherein the monitoring system automatically begins recording the operational time period in response to operation of the outdoor power implement.

17. A lawnmower comprising:

a frame;

an engine supported by the frame;

a mower deck supported by the frame;

a cutting implement disposed below the mower deck and rotationally driven by the engine;

a self-contained modular monitoring system for recording operational data of the lawnmower, the monitoring system including:

a microprocessor;

a memory;

an accelerometer for measuring impact force data of the lawnmower;

a signal conditioning circuit connecting the accelerometer to the microprocessor for transferring the impact force data, the signal conditioning circuit filtering the impact force data and providing filtered impact data that is scaled to parameters of the lawnmower, the filtered impact data being saved in the memory; and

a GPS receiver for collecting position data of the lawnmower, the GPS receiver being connected to the microprocessor and the position data being saved in the memory.

18. The lawnmower of claim 17, wherein the lawnmower comprises an electrical system including a power source and the monitoring system includes a power take-off for connecting the monitoring system to the power source of the lawnmower and providing power to the monitoring system.

19. The lawnmower of claim 18, wherein the monitoring system includes electrical sensors for measuring current, voltage and ambient temperature of the electrical system and transmitting data to the microprocessor regarding operation of the electrical system.

20. The lawnmower of claim 17, further comprising a user interface having a visual display and input buttons for interfacing with the monitoring system.

21. The lawnmower of claim 17, wherein the user interface is operable to receive an operator identification and a job identification entered by an operator of the lawnmower, the operator identification and the job identification being saved in the memory.

22. The lawnmower of claim 17, wherein the monitoring system further comprises a cutting implement sensor for sensing operation of the cutting implement and transmitting data to the microprocessor regarding operation of the cutting implement with respect to time.

23. The lawnmower of claim 17, further comprising at least two wheels supporting the frame, the lawnmower being suspension-less and the wheels being fixed with respect to the frame in a vertical direction.

24. The lawnmower of claim 17, wherein the signal conditioning circuit includes a filter module comprises a resistor capacitor filter circuit having a cutoff frequency at 50Hz.

25. The lawnmower of claim 24, wherein the filter module comprises a weighed averaging module configured to generate a weighed average using the impact force data.

26. The lawnmower of claim 17, wherein the accelerometer measures impact forces in at least three directions.

27. The lawnmower of claim 17, wherein the monitoring system further comprises a communication module operable to transfer data from the monitoring system to an external device.

28. The lawnmower of claim 17, wherein the monitoring system automatically begins recording the output data and position data when the GPS receiver senses movement of the outdoor power implement.

29. The lawnmower of claim 17, wherein the monitoring system further comprises a time keeping device coupled to the processing module for measuring an operational time

period the lawnmower is in operation, the monitoring system including a database of a maintenance time period for regularly scheduled maintenance and providing a maintenance indicator in response to the operational time period equaling the maintenance time period, the operational time period being saved in the memory.

30. The lawnmower of claim 29, further comprising a user interface including a visual display and input buttons for interfacing with the monitoring system, the user interface displaying the maintenance indicator and being operable to clear the maintenance indicator and reset the operational time period, the display of the maintenance indicator and the clearance of the maintenance indicator being saved in the memory.

31. The lawnmower of claim 29, wherein the monitoring system automatically begins recording the operational time period in response to operation of the lawnmower.

32. A monitoring system for an outdoor power implement, the monitoring system comprising:

a force sensing means for collecting impact force data of the system;

a position sensing means for receiving global positioning data of the system;

a filtering means for filtering the impact force data;

an extracting means for extracting data from the global positioning data; and

a storage means for logging the shock data and the extracted global positioning data.

33. The monitoring system of claim 32, further comprising a user interface comprising a displaying means for displaying data from the monitoring system and an entry means for entering data into the monitoring means.

34. The monitoring system of claim 33, wherein the user interface is operable to receive an operator identification and a job identification entered by an operator of the outdoor power implement, the storage device being operable to record the operator identification and the job identification.

35. The monitoring system of claim 32, wherein the storage means comprises an electrically erasable programmable read-only memory.

36. The monitoring system of claim 32, wherein the filtering means comprises a resistor capacitor filter circuit having a cutoff frequency at 50Hz.

37. The monitoring system of claim 32, wherein the filtering means comprises a means for generating a weighed average using the shock data.

38. The monitoring system of claim 32, wherein the force sensing means comprises at least one accelerometer measuring acceleration of the outdoor power implement in at least one direction.

39. The monitoring system of claim 32, further comprising a time measuring means coupled to the processing module for measuring an operational time period the outdoor power implement is in operation, the monitoring system including a database of a maintenance time period for regularly scheduled maintenance and an alerting means for informing an operator that regularly scheduled maintenance is due, the monitoring system activating the alerting means in response to the operational time period equaling the maintenance time period, the storage means being operable to record the operational time period.

40. The monitoring system of claim 39, further comprising a user interface including a visual display and input buttons for interfacing with the monitoring system, the user interface displaying the alerting means and being operable to clear the alerting means, the storage device being operable to record the initiation of the alerting means and the clearance of the alerting means.

41. The monitoring system of claim 39, wherein the monitoring system automatically begins recording the operational time period in response to operation of the outdoor power implement.

42. A method of logging data for an outdoor power implement having a self-contained modular monitoring system, the method comprising the acts of:

collecting impact force data of the outdoor power implement from an accelerometer;

filtering the impact force data with a signal conditioning circuit;

receiving global positioning data of the outdoor power implement from a GPS receiver; and

logging the filtered impact force data and the global positioning data in a storage device.

43. The method of claim 42, wherein the act of filtering includes filtering the impact force data through a resistor capacitor filter circuit having a cutoff frequency at 50Hz.

44. The method of claim 42, further comprising the act of generating a weighed average using the impact force data.

45. The method of claim 42, wherein the act of logging is automatically activated in response to the activation of the outdoor power implement.

46. The method of claim 42, wherein the act of logging is automatically activated in response to the sensing of a key voltage in an electrical system of the outdoor power implement.

47. The method of claim 42, wherein the act of logging is automatically activated in response to the sensing of impact force data by the accelerometer.

48. The method of claim 42, wherein the act of logging is automatically activated in response to the sensing of movement of the outdoor power implement by the GPS receiver.

49. The method of claim 42, further comprising the acts of:

enclosing the self-contained modular monitoring system within a durable housing;

mounting the housing on the outdoor power implement;

electrically connecting a power take-off of the monitoring system to a power source of the outdoor power implement;

electrically disconnecting the power take-off of the monitoring system from the power source of the outdoor power implement; and

removing the housing from the outdoor power implement.

50. The method of claim 42, further comprising the acts of;

providing a user interface having a visual display and input buttons for interfacing with the monitoring system;

entering an operator identification and a job identification on the user interface; and

logging the operator identification and the job identification in the storage device.

51. The method of claim 42, further comprising the acts of:

measuring an operational time period the outdoor power implement is in operation with a time keeping device;

recording the operational time period in the storage device;

storing a maintenance time period for regularly scheduled maintenance

comparing the operational time period with a maintenance time period for regularly scheduled maintenance; and

activating a maintenance indicator when the operational time period equaling the maintenance time period.

52. The method of claim 51, further comprising a user interface including a visual display and input buttons for interfacing with the monitoring system, the user interface displaying the maintenance indicator and being operable to clear the maintenance indicator, the storage device being operable to record the initiation of the maintenance indicator and the clearance of the maintenance indicator.

53. The method of claim 51, wherein the act of measuring the operational time period is automatically activated in response to the sensing of the operation of the outdoor power implement.

54. A method of doing business comprising the acts of:

providing at least one outdoor power implement;

connecting a self-contained modular monitoring system to the outdoor power implement;

collecting operating data of the outdoor power implement including collecting impact force data with an accelerometer and collecting positional data with a GPS receiver;

storing the operational data in the monitoring system;

downloading the operational data from the monitoring system to an external device; and

analyzing the performance of the outdoor power implement based on the operational data.

55. The method of claim 54, wherein the act of providing includes providing a lawnmower.

56. The method of claim 54, further comprising the act of filtering at least some of the operating data after collecting the operating data.

57. The method of claim 54, wherein the act of filtering includes filtering at least some of the operating data through a filter circuit having a cutoff frequency at 50 Hz.

58. The method of claim 54, wherein the act of collecting operating data further comprises collecting operator identification data and job identification data on the user interface.